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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Yoshifumi IIDA, et al. Group Art Unit: 1753

Application No. 09/987,413 Examiner: C. RoDee

Filed: December 14, 2001

For: TONER FOR DEVELOPING AN ELECTROSTATIC LATENT IMAGE, DEVELOPER, DEVELOPER UNIT, AND METHODS FOR FORMING AN IMAGE

DECLARATION UNDER 37 C.F.R. §1.132

Honorable Commissioner of Patents and Trademarks

Washington, D.C. 20231

Sir:

I, Yoshifumi IIDA, do declare and state as follows:

I graduated from Graduate School of Tokai University with a Master's Degree in Metallurgical Engineering in March 1993;

I joined Fuji Xerox Co., Ltd. in April 1993, and I have been engaged in the research and development of developers for developing an electrostatic latent image at Fuji Xerox's Takematsu Branch, Development Section;

I am a co-inventor of the subject matter disclosed and claimed in the above-identified application; and

I am familiar with the Office Action of July 16, 2003, and understand the Examiner's rejections therein.

The following additional comparative experiments were carried out by me or under my supervision in order to make the advantages of the subject matter more clear.

EXPERIMENTS

Preparation of Toner

In accordance with the procedures set forth in Examples of the present specification, a white color toner of Example 1 was prepared. Also, another white color toner of Example 5 of the present invention was prepared in a two-color constitution of white color and black color.

Further, in accordance with the procedures described in Example 15 of U.S. Patent No. 4,985,327 (*Sakashita et al.*), a cyan toner was prepared. This color toner contained the colorant (cyan) in an amount that was the largest among the colorants used in the Examples of U.S. Patent No. 4,985,327. Furthermore, another toner was prepared in a two-color constitution of cyan color and black color.

Evaluation

A copy test was performed by forming a sample image in which TMA (toner mass per unit area) was 0.7 mg/cm^2 on a full color OHP film (Manufactured by Fuji Xerox Co., Ltd.), and measuring the transmittance of the obtained sample image using a reflectance/transmittance meter HR100 (manufactured by Murakami Shikisai Gijyutsu Kenkyusho K.K.). The transmission density was obtained in accordance with the equation below, and the shielding property was evaluated based on the following evaluation criteria (as set forth at page 39, lines 25 - 29 of the present specification).

Shielding Property (Transmission Density) = Log (1/total transmittance)

Evaluation Criteria: Sample images yielding 0.25 or higher for white and 1.30 or higher for black were evaluated as good. Those yielding values lower than specified were evaluated as poor.

RESULTS

The results are summarized in Table A below.

TABLE A

		Toner Color Constitution	Shielding Property (Transmission Density)
Present Invention	Example 1	White	○
	–	Black	○
	Example 5	Two-color (white + black)	○
U.S. Patent No. 4,985,327	Example 15	Cyan	○
	–	Two-color (Cyan + black)	×

(**Note.** symbol "○": good; symbol "×": poor)

The results shown in Table A indicate that the white color toner of the present invention exhibits excellent shielding property when used in a two-color constitution, as a result of superimposing black color and white color.

The toner of U.S. Patent No. 4,985,327 (*Sakashita et al.*) meets the criteria of the shielding property specified in the present invention when it is used in a single color constitution. However, as is clear from Table A above, when used in a two-color constitution in which a cyan layer is superimposed on a black layer, the toner of U.S. Patent No. 4,985,327 exhibits an unclear boundary between the two color layers. It is because the cyan layer cannot shield the black layer due to a poor shielding property of the cyan toner. Thus, the toner of U.S. Patent No. 4,985,327 exhibits a low shielding property when used in a two-color constitution and cannot meet the criteria of the present invention.

CONCLUSION

As is apparent from the foregoing, a white color toner of the present invention can exhibit high contrast when it is used in a two-color constitution. Accordingly, the white color toner of the present invention provides an unexpected and superior effect as compared to the toner of U.S. Patent No. 4,985,327 (*Sakashita et al.*)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopartize the validity of the application or any patent issuing thereon.

Date: November 4, 2003

Yoshifumi Iida

Yoshifumi IIDA